

Photosynthetic pigment content and growth of chili under low light intensity for agroforestry crop development

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Abstract	<p>Introduction: Plants that grow and develop in a shaded environment are difficult to produce optimally. Therefore, the use of plant species that are able to produce optimally in a shaded environment is very important to be used as an agroforestry area. The research purposes was to observe morpho-physiological characters that can be used as characters to determine chilli plants that can produced in low light intensity area. Methods: A field experiment was conducted at farmer field in Pekuncen, Banyumas, Indonesia from May to October 2020. The research was arranged in randomized complete block design (RCBD) with three replications. The first plot was shading intensity (0% (control) and 50%) and the second plot consisted of nine chilli varieties, V1 (Segana), V2 (Lada Hijau), V3 (Bara), V4 (Catas), V5 (Kerinci), V6 (Raya), V7 (Genie), V8 (Sonar), and V9 (Rajo). Results: The results of this research showed that shade affected on leaves number and leaves area, but not affected on plant height and stem diameter. Shading net was affected on chlorophyll a and b, but not affected on chlorophyll content. Decreasing of total chlorophyll on 50% shade net occurring in shade sensitive varieties was significantly different than shade-tolerant varieties. Tolerant varieties based on the observation criteria were Bara (V3), Genie (V7), and Sonar (V8). Conclusion: Leaf area and leaf pigment character can be used as a reference for determining the resistance of varieties to low light.</p>
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